| <br>ex of C |  |
|-------------|--|
|             |  |

| Application/Control No. |
|-------------------------|
|                         |
|                         |

10/720,450

Examiner

Caridad M. Everhart

Applicant(s)/Patent under Reexamination

KIM ET AL.

Art Unit

2891

| <b>√</b> | Rejected |
|----------|----------|
| =        | Allowed  |

| - | (Through numeral)<br>Cancelled |
|---|--------------------------------|
| ÷ | Restricted                     |

| N | Non-Elected  |
|---|--------------|
| _ | Interference |

| A | Appeal   |
|---|----------|
| 0 | Objected |

| Cla  | im       | _        |          |          |          | Dat          | _  |  |              | <del>.</del>                                     | 1 | CIA      | aim      |
|--|----------|----------|----------|----------|----------|--------------|--|--|--------------|--|---|----------|----------|
|  | 0711     | 12       | _        | ı        | _        | Jai          | Ī  | _  | т            | Т  | 1 | C 2      | ****     |
| Final  | Original | 4/0/06   |          |          |          |              |  |  |              |  |   | Final    | Original |
| 1  | 1        | =        |          |          |          | _            |  |  |              |  |   |          | 51       |
| 2  | 2        | =        |          | L        |          |              |  |  |              |  |   |          | 52       |
|  | 3        | =        |          |          |          | •            |  | Γ  |              |  |   |          | 53       |
| 3  | 4        | =        |          | Г        | Г        | Г            | Г  | Π  |              | Π  | ĺ |          | 54       |
| 4  | 5        | =        |          |          |          |              |  |  |              | Π  | ĺ |          | 55       |
| 5  | 6        | =        |          |          |          |              |  | <u> </u>   |              | T-   | 1 |          | 56       |
| 6  | 7        | =        |          |          |          | 1            |  | Г  | Г            |  |   |          | 57       |
| 7  | 8        | =        | Г        |          |          | Г            |  |  |              | 1  |   |          | 58       |
| 8  | 9        | =        |          |          |          |              |  |  | 1            | T  | i |          | 59       |
| 9  | 10       | =        |          |          |          | _            | T  | T  |              |  |   |          | 60       |
| 10   | 11       | =        |          |          | Г        |              |  |  |              | Г  | i |          | 61       |
| 11   | 12       | =        |          |          |          |              |  |  |              |  |   |          | 62       |
| 14   | 13       | Ξ        | _        |          | Г        |              |  |  |              | -  |   |          | 63       |
| 15   | 14       | =        |          |          |          |              | 1  | 1  |              |  |   | -        | 64       |
| 16   | 15       | =        |          |          |          |              |  |  |              |  |   |          | 65       |
|  | 16       | Ξ        | _        |          | Т        |              |  |  |              |  |   |          | 66       |
| 19   | 17       | =        |          |          | T        |              | 1  | 1  | Т            | Т  |   |          | 67       |
| 20   | 18       | =        |          |          | T        | <b>-</b>     | <b>!</b>   | ┢  | Н            | <del>                                     </del> |   |          | 68       |
| 21   | 19       | ╘        |          |          |          | ╁╌           |  | $\vdash$   | ┢            | H  |   |          | 69       |
| 22   | 20       | ┇        |          | -        | _        | $\vdash$     | $\vdash$   | 1  | $\vdash$     | 一  |   |          | 70       |
| 17   | 21       | ╘        |          |          | $\vdash$ | _            | ┢  | $\vdash$   | 一            | ┢  |   |          | 71       |
| 18   | 22       | Ξ        |          | -        | $\vdash$ | $\vdash$     | ┢  | -  | -            | ┢╾   |   |          | 72       |
| 23   | 23       | =        | _        |          | $\vdash$ | ┢┈           | <del>                                     </del> | H  | ┢            | ┢  |   |          | 73       |
| 24   | 24       | ╘        |          | _        | $\vdash$ | -            | -  | <del>                                     </del> | $\vdash$     | -  |   |          | 74       |
| 25   | 25       | ╘        |          | _        | $\vdash$ | ┢            | ┢  | ┢  | $\vdash$     | ┢  |   |          | 75       |
|  | 26       | Н        |          | $\vdash$ | $\vdash$ | ├─           | ┢  | $\vdash$   | ┢            | -  |   |          | 76       |
| $\vdash$   | 27       | H        |          |          | _        | ┢──          | ┢  | ┢  | $\vdash$     | -  |   |          | 77       |
| <del>                                     </del> | 28       | Н        |          | _        |          |              | <del> </del>                                     | -  | $\vdash$     | ┝  |   |          | 78       |
|  | 29       | Н        | _        |          |          | <del> </del> | ┢╾   | ┝  | $\vdash$     | -  |   |          | 79       |
| $\vdash$   | 30       | Н        |          |          |          | <del> </del> | ┢  | $\vdash$   | ┢            | ┝┈   |   |          | 80       |
|  | 31       | Н        | _        | _        | -        | -            | ┢  | ⊢  | ⊢            | -  |   | _        | 81       |
| $\vdash$   | 32       | Н        | _        | _        |          | $\vdash$     | -  | H  | ┢            | $\vdash$   |   |          | 82       |
| $\vdash$   | 33       | Н        |          | -        | $\vdash$ | _            | $\vdash$   | H  | ┢─           |  |   |          | 83       |
|  | 34       | Н        |          | _        | $\vdash$ |              | $\vdash$   | ┢┈   | <del>-</del> | H  |   |          | 84       |
| $\vdash$   | 35       | H        |          |          |          | _            |  | ┢  | -            | -  |   |          | 85       |
|  | 36       | H        | -        |          | -        |              |  | ├  | -            | H  |   |          | 86       |
| $\vdash$   | 37       | H        | -        |          | _        | _            |  | <del> </del>                                     |              | $\vdash$   |   |          | 87       |
| -  | 38       | H        |          |          | _        | -            | _  | -  | <del> </del> | $\vdash$   |   |          | 88       |
|  | 39       | Н        | -        |          |          |              |  |  | <u> </u>     | $\vdash$   |   | -        | 89       |
| $\vdash$   | 40       | $\vdash$ |          |          |          | _            |  |  | $\vdash$     |  |   |          |          |
| 12   | 41       | =        |          | =        |          |              |  |  | _            | Н  |   |          | 90       |
| 13   | 42       | =        |          | -        |          |              |  |  |              | Н  | 1 |          | 92       |
| <u>'                                   </u>      | 43       | $\vdash$ |          |          |          |              | _  |  |              | Н  | ŀ |          | 93       |
| $\vdash$   | 44       | $\vdash$ |          |          | -        | Н            |  |  |              | $\vdash$   | 1 |          | 94       |
| $\vdash$   | 45       | $\vdash$ | -        |          | -        |              |  | _  |              |  | ŀ | $\dashv$ | 95       |
|  | 46       | $\dashv$ | $\dashv$ | -        |          |              | -  | _  |              |  | ŀ |          | 96       |
| $\vdash$   | 47       | $\vdash$ | -        |          | -        | $\vdash$     |  | $\vdash$   | Н            |  | ŀ |          | 97       |
| $\vdash$   | 48       |          | $\dashv$ | $\dashv$ | $\vdash$ | $\vdash$     | -  | $\vdash$   |              | $\vdash\vdash$                                   | ŀ |          |          |
| $\vdash$   | 49       | ┈┤       | $\dashv$ |          |          |              | $\vdash$   | $\vdash$   | $\vdash$     | $\vdash$   | ŀ |          | 98<br>99 |
| $\vdash$   | 50       | $\vdash$ |          |          | $\dashv$ |              | $\vdash$   | Н  | $\vdash$     | $\vdash \vdash$                                  | ŀ |          | 100      |
| ш  |          |          |          |          |          | ш            |  | لــــا   | L            | L!   | L | 1        | 1001     |

| Cla      | aim      |  |                |  |  | Dat      | е            |              |  |  |
|----------|----------|--|----------------|--|--|----------|--------------|--------------|--|--|
|          | Ĭ        | T  | П              | П  | П  | П        | П            | 1            |  | П  |
| ۱ 🚃      | Original |  | l              |  | 1  | l        | l            |              |  |  |
| Final    | <u></u>  |  | l              |  | 1  | l        | l            |              | ł  |  |
| ш        | 1 2      |  | l              |  |  | 1        | 1            |              | ļ  |  |
|          | l        |  |                |  | ı  | 1        | 1            | ı            | 1  |  |
|          | 51       | i –  | Г              | Т  | Т  | Т        | П            | П            | П  |  |
| -        | 52       | 一  | $\vdash$       | <del>                                     </del> | ┢  | 一        | t            |              | <del>                                     </del> | <del>                                     </del> |
| -        | 52       | ├  | ├              | ├-   | ┝  | ┢        | ₩            | <del> </del> | ├  | -  |
|          | 53<br>54 | <u> </u>   | <u> </u>       | _  | _  | ļ.       | L_           | ļ.,          | ┞  | ┞  |
|          | 54       | ᆫ  | _              | ᆫ  | <u> </u>   | <u>L</u> | L.,          |              | <u> </u>   |  |
|          | 55       | L  |                |  |  |          |              |              | l  |  |
|          | 56       |  |                | П  |  |          | Π            | Γ            | Γ  |  |
| <b>—</b> | 57       | <u> </u>   | _              | <b>!</b>   | $\vdash$   | $\vdash$ |              |              | $\vdash$   | $\vdash$   |
| . —      | 58       | <del>                                     </del> |                | ┢  | ╁  | ╁        | <del> </del> | -            | ┢  | ⊢  |
|          | 50       | -  | -              | ├  | ┈  | -        | -            | ⊢            | ┝  | ⊢  |
|          | 59       | Ь.   | L_             | L  | ┞  | ╙        |              | <u> </u>     | 1_   |  |
|          | 60       |  | <u> </u>       | <u> </u>   |  |          |              |              | 1  |  |
|          | 61       |  |                |  |  |          |              |              | I  | Γ  |
|          | 61<br>62 | Г  |                | Γ  | Г  | Г        | Г            |              | П  | Г  |
|          | 63       | <u> </u>   | ┢              | t  | H  | Н        | <del> </del> | 1            | ┢  | $\vdash$   |
| $\vdash$ | 64       | $\vdash$   | ├─             | <del>                                     </del> | $\vdash$   | $\vdash$ | $\vdash$     | $\vdash$     | <del>                                     </del> | -  |
| ⊢        | 04       | -  | $\vdash$       | $\vdash$   | $\vdash$   | $\vdash$ | ├            | -            | $\vdash$   | $\vdash$   |
| <u> </u> | 65       |  | <u> </u>       | _  | _  | <u> </u> | L            | L            | <u> </u>   | $\vdash$   |
|          | 66       |  |                |  |  |          |              | L.           | L  |  |
|          | 67       |  |                | Γ  |  |          |              |              |  |  |
|          | 68       | Г  |                |  |  | Г        | Г            |              | Т  | Г  |
|          | 69       | _  | $\vdash$       | $\vdash$   | -  | ┢        | $\vdash$     | H            | -  | ┢  |
| <u> </u> | 70       |  | ┝─             | ├-   | ⊢  | ┝        | ⊢            | ├            | <u> </u>   | ⊢  |
| <u> </u> | 70       | <b>—</b>   | <u> </u>       | ┡  | <u> </u>   | ┞        | ┖            | ┞            | <u> </u>   | <u> </u>   |
|          | 71       | L.,  | L              |  | L  | L        | <u> </u>     |              | _  | L  |
|          | 72       |  |                |  |  | l        |              | l            |  |  |
|          | 72<br>73 | П  |                | Г  |  |          |              | Г            |  |  |
|          | 74       | $\vdash$   | $\vdash$       | Т  | ┰  | -        | $\vdash$     | $\vdash$     | _  |  |
| <b></b>  | 75       | ┢  | ⊢              | ┢  | $\vdash$   | $\vdash$ | $\vdash$     | ⊢            | ┝  | _  |
|          | 70       | $\vdash$   | -              |  | -  | ⊢        | ⊢            | -            |  | ⊢  |
| ļ        | 76       | _  | _              | <u> </u>   | <u> </u>   | _        | ┡            | <u> </u>     | <u> </u>   | _  |
|          | 77       |  |                | _  | L  | L        | Ц            | 匚            | L_   |  |
|          | 78       |  |                | L  |  | <u> </u> | L            |              |  |  |
|          | 79       |  |                |  |  |          |              |              | Γ  |  |
|          | 80       |  |                |  |  |          |              | _            | $\vdash$   |  |
| $\vdash$ | 81       | H  | $\vdash$       | _  | ┢  | $\vdash$ |              |              | $\vdash$   | ┢  |
| -        | 3        | H  |                | -  | ⊢  | ⊢        | ┝            |              | ├  | ⊢  |
| -        | 82       | Ь.   | <u> </u>       | ├_   | ⊢  | ⊢-       | <u> </u>     | <u> </u>     | ⊢  | <u> </u>   |
|          | 83       | L  | _              | <u> </u>   | <u> </u>   | L        | <u> </u>     | $oxed{oxed}$ | L.   | _  |
|          | 84       |  | L              | L  | L  | L        | L            | L            | L_   | L.   |
|          | 85       |  |                |  | I  |          | Γ            |              |  |  |
|          | 86       |  |                |  | Γ  | Г        | Г            | Г            |  |  |
|          | 87       | <del>                                     </del> |                | $\vdash$   | <del>                                     </del> | $\vdash$ | $\vdash$     | $\vdash$     | _  | _  |
| $\vdash$ | 90       | Н  | _              | $\vdash$   | $\vdash$   | ├        | Ι            | ┝            | -  |  |
| <u> </u> | 88       | Щ  |                | $\vdash$   | $\vdash$   | <u> </u> | ├—           | <u> </u>     | $\vdash$   | L  |
| -        | 89       | Ш  |                | L  | oxdot  | _        | <u> </u>     |              | <u> </u>   |  |
|          | 90       |  |                |  |  |          |              |              | L.   |  |
|          | 91       |  |                |  |  |          |              |              |  |  |
|          | 92       |  |                |  | $\Box$   |          |              |              |  |  |
| -        | 93       | Н  |                | $\vdash$   | Н  | $\vdash$ |              | $\vdash$     | Н  | <u> </u>   |
| $\vdash$ |          | Н  |                | $\vdash$   | ┝  | $\vdash$ | $\vdash$     | $\vdash$     | $\vdash$   | <u> </u>   |
| -        | 94       |  |                |  | <u> </u>   | <u> </u> | $\vdash$     | <u> </u>     | $\vdash$   | $\vdash$   |
|          | 95       |  |                |  | Щ  | L_       | Щ            | Щ            | _  | _  |
| !        | 96       |  |                | L  |  |          | L.           | L            |  | L  |
|          | 97       |  |                |  |  |          |              |              |  |  |
|          | 98       |  |                |  |  |          | П            |              |  | $\Box$   |
|          | 99       | $\vdash$   |                | $\vdash$   |  | -        | $\vdash$     | H-           | $\vdash$   | -  |
|          | 99       | $\vdash$   | $\blacksquare$ | Н  | Ь.   |          | Н            | $\vdash$     | $\vdash$   | _  |

| CI       | Date                            |          |          |          |          |          |              |  |          |                |
|----------|---------------------------------|----------|----------|----------|----------|----------|--------------|--|----------|----------------|
| Final    | Original                        |          |          |          |          |          |              |  |          |                |
|          | 101                             |          | <u> </u> | -        |          | $\vdash$ | $\vdash$     | $\vdash$   |          | Н              |
|          | 102                             |          |          |          |          |          | Π            | Γ  |          |                |
|          | 102<br>103                      |          |          |          |          |          |              | Г  |          |                |
|          | 104                             |          |          |          |          |          |              |  |          |                |
|          | 104<br>105                      |          | L        | L        | L        |          |              | L  |          |                |
|          | 106                             |          | _        |          | 匚        | L        | L            |  |          | Ш              |
|          | 107<br>108                      |          | L        |          | L        |          | Ш            | _  |          | Ш              |
|          | 108                             |          | <u> </u> | <u> </u> | <u> </u> | <u> </u> | ļ            | _  | <u> </u> | Ш              |
|          | 109                             |          | <u> </u> | <u> </u> | <u> </u> | _        | 匚            | _  | _        | Ш              |
|          | 110<br>111<br>112               |          | <u> </u> | <u> </u> | <u> </u> | <b> </b> | _            | ⊢  | _        | Н              |
|          | 111                             |          | <u> </u> | ┝        | ⊢        | ⊢        | ⊢            | ┢  | -        | Н              |
|          | 112                             |          | ⊢        | ├        | ├        | ⊢        | ⊢            | ⊢  | ├        | $\vdash\vdash$ |
|          | 114                             |          | ┝        | $\vdash$ | -        | -        | ⊢            | ⊢  | $\vdash$ | Н              |
| -        | 115                             | $\vdash$ | ┝─╴      | $\vdash$ | $\vdash$ | $\vdash$ | -            | $\vdash$   | $\vdash$ | $\vdash$       |
| -        | 113<br>114<br>115<br>116        | $\vdash$ | 1        | Н        | $\vdash$ | $\vdash$ | <del> </del> | <del>  -                                    </del>   | $\vdash$ | Н              |
|          | 117                             |          |          |          | $\vdash$ |          | -            | Н  | ┢        | H              |
|          | 118                             |          |          |          |          |          | -            | Г  |          | П              |
|          | 118<br>119                      |          |          |          | T        |          |              |  |          | П              |
|          | 120                             |          |          |          |          |          |              | Г  |          | П              |
|          | 121<br>122<br>123               |          |          |          | Γ        |          |              |  |          |                |
|          | 122                             |          |          |          |          |          |              |  |          |                |
|          | 123                             |          |          |          |          |          |              |  |          |                |
|          | 124                             |          |          |          |          |          |              |  |          |                |
|          | 125                             |          |          |          | L        | Ш        |              | $ldsymbol{ld}}}}}}}$ |          |                |
|          | 126                             |          | _        |          | L        |          | _            | ldash  |          |                |
|          | 124<br>125<br>126<br>127<br>128 |          |          |          | _        |          | <u> </u>     | L  |          | Щ              |
|          | 128                             |          | _        |          | _        |          |              | ⊢  | Н        | Н              |
|          | 129<br>130<br>131               |          | _        | _        | $\vdash$ | H        | _            | -  | $\vdash$ | $\dashv$       |
|          | 130                             |          | -        | Н        | $\vdash$ | $\vdash$ |              | -  | -        | $\vdash$       |
|          | 132                             | -        | -        |          |          |          | _            | ⊢  |          | $\dashv$       |
|          | 133                             |          | Н        | Н        | $\vdash$ | _        |              |  |          | _              |
|          | 132<br>133<br>134               |          | П        | Н        | $\vdash$ |          |              |  |          | $\vdash$       |
|          | 135                             |          |          |          |          |          |              | П  | П        | П              |
|          | 136                             |          |          |          |          |          |              |  |          |                |
|          | 137<br>138                      |          |          |          |          |          |              |  |          |                |
|          | 138                             |          |          |          |          |          |              |  |          |                |
|          | 139                             |          |          | Ш        |          | Ш        | Ш            | L_   | Ш        |                |
|          | 140                             | $\dashv$ |          | $\Box$   | $\vdash$ | Ш        |              | L.,  | Щ        | Щ              |
|          | 141                             |          |          |          | $\vdash$ | Ш        |              | $\vdash$   | Щ        | -              |
|          | 142<br>143                      |          | Н        | $\vdash$ | $\vdash$ |          | _            |  | H        | $\dashv$       |
| -        | 144                             |          | $\vdash$ | $\vdash$ | $\vdash$ | $\vdash$ | _            | $\vdash$   |          | $\vdash$       |
|          | 145                             | $\dashv$ |          |          | $\vdash$ | $\vdash$ | Н            | $\vdash$   | $\vdash$ | -              |
|          | 146                             | $\dashv$ |          | $\dashv$ | $\vdash$ | $\vdash$ |              | Н  |          | $\dashv$       |
| $\neg$   | 147                             | $\dashv$ | -        | -        | $\vdash$ | H        | -            | $\vdash$   | $\dashv$ | $\dashv$       |
| $\dashv$ | 148                             | $\dashv$ | $\dashv$ | -        | $\vdash$ | $\vdash$ | _            | H  | $\dashv$ | $\dashv$       |
|          | 149                             | 乛        | $\dashv$ | $\dashv$ |          |          |              | $\vdash$   |          | $\dashv$       |
|          | 150                             |          |          | _1       |          |          |              |  |          |                |
|          |                                 |          |          | _ '      |          | _        |              |  | _        |                |